

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 0300171	FOR FURTHER ACTION		See Form PCT/PEAA416
International application No. PCT/GB2004/002410	International filing date (day/month/year) 08.06.2004	Priority date (day/month/year) 25.06.2003	
International Patent Classification (IPC) or national classification and IPC G01N27/64			
Applicant SMITHS GROUP PLC et al.			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (Indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 22.10.2004		Date of completion of this report 29.06.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Klein, M-O Telephone No. +49 89 2399-2736 	

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/GB2004/002410

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

Description, Pages

1-4 as originally filed

Claims, Numbers

1-12 as originally filed

Drawings, Sheets

1/1 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/GB2004/002410

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	11,12
	No: Claims	1-10
Inventive step (IS)	Yes: Claims	11,12
	No: Claims	1-10
Industrial applicability (IA)	Yes: Claims	1-12
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Reference is made to the following documents:

- D1: US-B1-6 459 079
- D2: US-A-4 445 038
- D3: WO 00/52432 A
- D4: EP-A-0 626 579
- D5: US 2003/006778 A

Re Item VIII

Reasoned statement with regard to clarity

- The term "operable" in claim 1 and various dependent claims does not limit the scope of the claim for which protection is sought. For claims 1 the expression merely states that the driver is "*suitable for switching the polarity...*". Hence any apparatus (e.g. **D1, D2, D4**) disclose the subject-matter of claim 1 because the disclosed systems have voltage controllers for applying a potential in the two drift regions.
- It appears that some of the features in the apparatus claim 1 relate to a method of using the apparatus ("...the driver is operable to switch the polarity... so that it is responsive to a substance...") rather than clearly defining the apparatus in terms of its technical features. The intended limitations are therefore not clear from this claim, contrary to the requirements of Article 6 PCT. It is suggested to file a new independent **method** claim.
- It is not clear in claim 3 which cell is switched ("... switch polarity of **the** (or each) cell...").
- It is not clear in claim 6 whether the polarity is switched in one or each cell.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of independent claim 1 is not new in the sense of Article 33(2) PCT.

The document **D1** discloses an ion mobility spectrometer system including a first and second IMS cell (fig. 1) , each cell having an inlet by which a vapour or gas to be analysed is supplied to the cells a driver operable to drive the first and second

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/GB2004/002410

cells at opposite polarities such that the first and second cells are responsive to respective first and second substances different from one another, characterized in that the driver is operable to switch the polarity of at least the first cell so that it is response to a substance different from the first substance (col. 7, l. 46- col. 8, l 19).

2. Dependent claims 2-10 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, see documents **D1-D5** and the corresponding passages cited in the search report.

The following is noted to various dependent claims:

claim 2-6: see D1 (col. 7, l. 46- col. 8, l 19). See clarity objection for the term "operable".

claim 7,8: see D1 (col. 3, l. 57-54, col.8, l. 8-19).

claim 9: obvious conclusion, not a technical feature

claim 10: obvious decision not to change polarity of a cell when substance is detected.